

ABSTRACT OF THE DISCLOSURE

A semiconductor apparatus and method for making the semiconductor apparatus are provided. The semiconductor memory device can include functional circuit blocks (100) having a multi-layer wiring structure for providing electrical connections between device elements within functional circuit blocks (100). Multi-layer wiring structure can include a wiring layer (M2) disposed in a M2 wiring layer horizontal track (120) and a M2 wiring layer vertical track (122). M2 wiring layer horizontal track (120) provides electrical connections by using wiring layer (M2) disposed in a horizontal direction and M2 wiring layer vertical track (122) provides electrical connections by using wiring layer (M2) disposed in a vertical direction. A wiring layer (M1) can form electrodes having electrical connections to diffusion regions of the device elements in functional circuit blocks (100). Wiring layer (M1) can have a higher sheet resistance and higher melting point than wiring layer (M2).